The effect of Picolinic acid on the structure and stability Human Serum Albumin

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Abstract

The stability and structure of Human Serum Albumin (HSA) with picolinic acid as a pyridine compound have been investigated by of UV–Vis and circular dichroism (CD) spectroscopy. In the protein chemical denaturation the magnitudes of $\Delta G^{O}_{(H2O)}$ and C_m for sole HSA and its treatment by picolinic acid obtained: $\Delta G^{O}_{(H2O)}$ = 12.5 and 15.3 kJ mol^{-1} ; C_m = 0.22 and 0.23M, respectively. The results of UV-Vis absorption and CD showed that the binding of picolinic acid to HSA induced conformational changes in HSA. According to above mentioned thermodynamic parameters and structural assessment of HSA with CD and UV-Vis, the interaction of picolinic acid induced protein stability.

Keyword: HSA, Picolinic Acid, Structure, Thermodynamic parameters.